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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/709,715

05/24/2004

Kuo-Hsing Cheng

11586-US-PA

3714

31561

7590

09/27/2006

JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE  
7 FLOOR-1, NO. 100  
ROOSEVELT ROAD, SECTION 2  
TAIPEI, 100  
TAIWAN

EXAMINER

MOON, SEOKYUN

ART UNIT

PAPER NUMBER

2629

DATE MAILED: 09/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/709,715

Applicant(s)

CHENG, KUO-HSING

Examiner

Seokyun Moon

Art Unit

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 May 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Applicants' claim for the benefit of a prior-filed application under 35 U.S.C. 119(a)-(d) is acknowledged.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. **Claim 5** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term disclosed in the claim 5 line 5, "*pixel number*" renders the claim(s) indefinite because the term is not clearly defined or explained in the specification of the Application.

Furthermore, even if the term "*pixel number*" is to be interpreted as "*number of pixels*", it is clearly shown in the Application that "*data line set*" does not include any "*pixels*".

As best understood by the Examiner, the claim limitation, "*having a same pixel number as the pixel set*" will be omitted for further examination purpose.

The terms disclosed in the claim 5 line 11, "*the pixel*" renders the claim(s) indefinite because the term is not previously disclosed or mentioned in any part of the claim, thus it is not clear which pixel is referred.

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For further examination purpose, the claim limitation, "*the pixel*" will be interpreted as "*a pixel*".

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. **Claims 1-7** are rejected under 35 U.S.C. 102(b) as being anticipated by Kim (US Pub. No. 2001/0015716 A1).

As to **claim 1**, Kim [drawing 1 provided on page 4 of this Office action, which is equivalent to Kim's figure 6a] teaches a driving method for a pixel array, at least one row of the pixel array comprising a plurality of pixel sets, and at least one of the pixel sets comprising a plurality of pixels, the driving method comprising:

providing a plurality of voltages having substantially same phase (same polarity) to a plurality of pixel electrodes ("*common electrode*") [claim 13] of the pixels of one of the pixel sets [par. (0052)];

providing at least two voltages with phases substantially opposite to each other to the pixel electrodes of the pixels of two of the adjacent pixel sets respectively [fig. 6a];

driving two adjacent pixels in two of the pixel sets respectively by a gate line; and

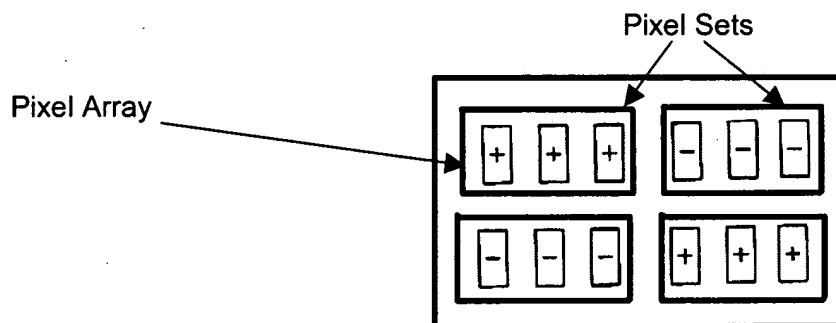
driving a first pixel in one of the pixel set and another pixel in an adjacent column of the first pixel set by another gate line, wherein a phase of a voltage of a pixel electrode of the first pixel and a phase of a voltage of a pixel electrode of the another pixel are substantially different [fig. 6a].

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As to **claim 2**, Kim [fig. 6a] teaches each of the pixel sets to comprise three pixels.

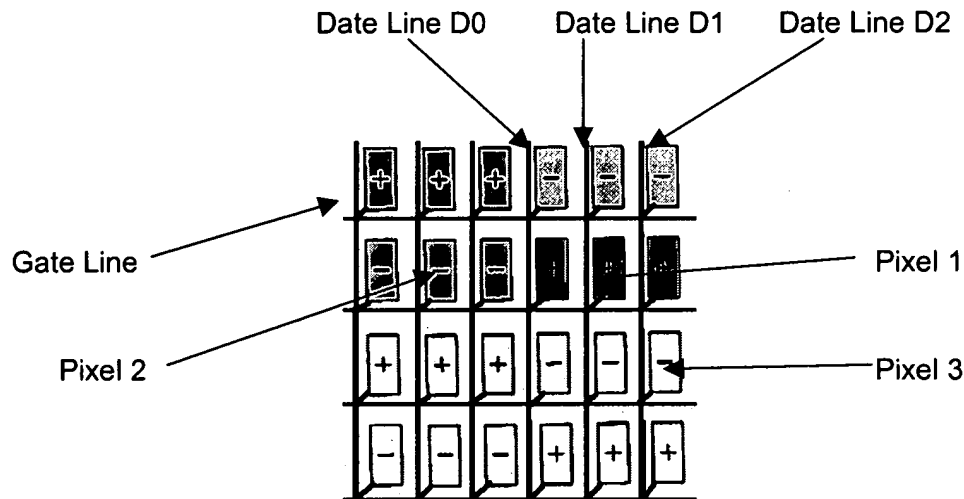
As to **claim 3**, Kim [fig. 6a] teaches a number of the pixels of each of the pixel set is  $3 \cdot M$ , wherein  $M$  is a positive integer.

As to **claim 4**, Kim teaches the other pixel to be disposed in an adjacent row of the first pixel.



Drawing 1

As to **claim 5**, Kim teaches a driving method for a pixel array, each row of the pixel array [Drawing 1 provided above] comprising at least one pixel set, at least one of the pixel set comprising a plurality of pixels, and each pixel set corresponding to a data line set (three data lines connecting to the three pixels included in each pixel set) [Drawing 2 provided on page 5 of this Office action, which is equivalent to Kim's figures 2 and 6a] (having a same number of data lines as the number of pixels included in the pixel set), the driving method comprising:

Drawing 2

wherein when the prior data line ("D0") and the recent data line ("D1") do not belong to same data line set, the recent data line is used to drive a pixel ("*Pixel 1*") disposed after a pixel ("*Pixel 2*") which is driven by the prior data line ("D0"); and

when the prior data line ("D1") and the recent data line ("D2") belong to same data line set, the recent data line is used to drive one of the pixel ("*Pixel 3*") disposed in a row apart from the pixel ("*Pixel 1*") which is driven by the prior data line.

Kim inherently teaches a method of determining whether a prior data line and a recent data line belong to same data line set or not since it is required for Kim's display to provide different voltages having different polarities for each data line set.

As to **claim 6**, all of the claim limitations have already been discussed with respect to the rejection of claim 2.

As to **claim 7**, all of the claim limitations have already been discussed with respect to the rejection of claim 3.

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**Conclusion**

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Tai et al. (US Pat. No. 7,042,437 B2) teaches a driving method of an LCD panel comprising applying driving voltages having different polarities to adjacent pixels included in different group of pixels.


7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seokyun Moon whose telephone number is (571) 272-5552. The examiner can normally be reached on Mon - Fri (8:30 a.m. - 5:00 p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

September 20, 2006

S.M.



**SUMATI LEFKOWITZ**  
SUPERVISORY PATENT EXAMINER